

Abstract of the Disclosure

A technique for providing real-time multimedia conferencing services with guaranteed performance, in a hybrid networking environment, by interconnecting cable modem-based premises networks via hybrid fiber coaxial (HFC) access networks and an ATM wide area network is disclosed. The ATM wide area network may be divided into a plurality of access network domains and one backbone network domain to provide efficient and intelligent multimedia conferencing services. Each ATM access network domain has one cable modem server as well as access multimedia bridge server. There is only one central network server and one central multimedia bridge server within the backbone network domain. Each cable modem server located in an ATM access network domain maintains necessary information of how the cable network bandwidth is used by existing calls, and will be allocated when new multimedia conference calls are initiated, in accordance with desired priority and performance levels.